



DERMATOLOGICAL SURGERY

## THE INFLUENCE OF LOCAL REACTION AND TOPOGRAPHY ON IMIQUIMOD'S EFFICACY: A FIFTEEN-YEAR RETROSPECTIVE COHORT STUDY

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**Introduction:** Imiquimod is a toll-like receptor agonist which mechanism is not completely understood. For antitumor action of imiquimod, inflammatory cytokines are required, stimulating adaptive and innate responses, leading to local cutaneous reaction. The intensity of this reaction appears to be dose dependent and associated with a better therapeutic response. The influence of topography on efficacy of the drug has never been studied before.

**Objective:** The aim of this study is to assess if local reaction and topography influence the cutaneous neoplasm response to treatment with Imiquimod.

**Materials and Methods:** We performed a retrospective cohort study in a tertiary care hospital in Brazil. Our inclusion criteria were histopathologically confirmed superficial basal cell carcinoma (BCC), squamous cell carcinoma in situ (SCC) and actinic keratosis (AK) treated solely with topical imiquimod 5%, 5 times per week, during at least 6 weeks, between 2003 - 2017 (N=745). Exclusion criteria included multiple skin cancer syndromes and incomplete information on patient's charts. The remaining cases were then classified upon local reaction (graduated 0-3) and topography and their association with response to treatment was analyzed using Pearson's chi-squared test.

**Results:** We obtained 326 lesions; 111 BCC, 164 SCC and 51 AK. Complete recurrence free response to imiquimod was found in 261 lesions, partial response in 22, no response in 34 and tumor recurrence in 8 lesions. Statistically significant association ( $p < 0.05$ ) between better response to treatment and higher grades of local reaction was encountered, especially for BCC. Poorer response to imiquimod occurred when applied in lower limbs compared to other topographies ( $p < 0.01$ ).





Conclusions: Imiquimod stimulates local reaction which can be associated to better therapeutic response. The use of imiquimod should be avoided in lower limbs lesions due to poorer therapeutic response in this topography. In these cases, surgical treatment must be considered alternatively.

